

DRCU_OFF - Switch OFF the redundant DRCU
 File: H_FCP_SPI_RDRF.xls
 Author: R. Biggins



Procedure Summary

Objectives

The objective of this procedure is to switch OFF the redundant Detector Readout and Control Unit (DRCU)

Summary of Constraints

n/a

Spacecraft Configuration

Start of Procedure

SPIRE is in DRCU_ON mode

End of Procedure

SPIRE is in DPU_ON mode

Reference File(s)

Input Command Sequences

Output Command Sequences

HFSRDRF

Referenced Displays

ANDs **GRDs** **SLDs**
 ZAZ95999

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
07/08/07		1	Created	R. Biggins	
21/11/07		1.01	Validation : Time tag added to LCL off command	R. Biggins	
15/01/08		2	Update due to initial testing against the simulator: - TCs updated due to new DB	R. Biggins	
29/01/08		3	Update due to changes in input file (DRCU_OFF: version 3) - BBID/OBSID TM checks added - Execution times removed	R. Biggins	
22/02/08		4	Update due to testing against MOC Simulator: - Time Tags updated - BBID/OBSID TM checks added - Editorial updates	R. Biggins	
03/03/08		5	Update due to comments by S. Sidher: - Telecommands to restart telemetry removed - Telecommand to re-enable FDIR removed	R. Biggins	

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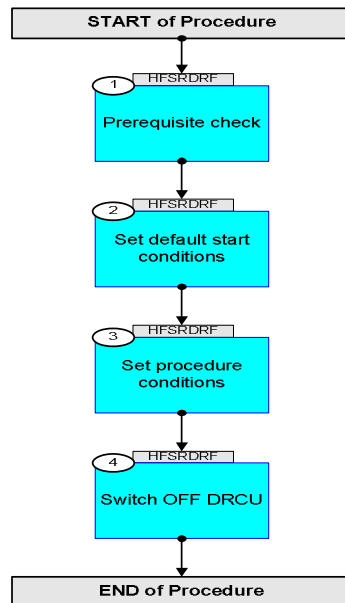


			Updates due to SVT-1 testing: <ul style="list-style-type: none"> - Step 4.1 removed (TC to disable SDB FDIR removed) - SET_OBS_MODE moved from end of last step to end of step 3 - LCL switch off TC updated (LCL52 not 51) - TC to restart Critical HK generation added after LCL switch OFF - Default OBSID value updated to 0x0000 0000 - Flags updated - Comments added/updated - AND updated for all TM parameters 		
19/05/08	1	6		R. Biggins	
25/03/09	2.2	6.01	Validation : Update SPIDS	L.Lucas-hp	

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Procedure Flowchart Overview

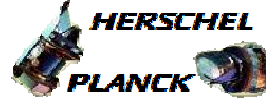


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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name : HFSRDRF (Switch OFF DRCU (Rd))				
TimeTag Type: N				
Sub Schedule ID:				
□				
1		Prerequisite check		Next Step: 2
		Verify Telemetry MODE SM00M500	= DRCU_ON	AND=ZAZ95999
2		Set default start conditions		Next Step: 3
		Note that a TM(5,1) packet [R_New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 SSID : 370	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80010001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= ClearObs	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 SSID : 370	SC000500 00000000 <hex>	
		Verify Telemetry OBSID SM10N500	= 00000000 <hex>	AND=ZAZ95999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80000000 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80020001 <hex>	
		Verify Telemetry BBFULLTYPE SM2LN500	= StartObs	AND=ZAZ95999
3		Set procedure conditions		Next Step: 4
	ET=+ UT=+00.00.00	RESET_DRCU_COUNTERS RESET_DRCU_COUNTERS Subsch. ID : 370 Det. descr. : RESET DRCU COUNTERS	SCD00505	
		Verify that the TRESET parameter has the same value as the THSK parameter TRESET SM01T500	same as THSK	AND=ZAZ95999
		THSK SM00T500	any	AND=ZAZ95999
		Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SP03N500 1 <hex>	SC003500	
	ET=+ UT=+00.00.01	SET_OBSID Command Parameter(s) : OBSERVATION_ID SSID : 370	SET_OBSID SP00N500 OBS_ID	SC000500	
		Verify Telemetry OBSID SM10N500	OBS_ID	AND=ZAZ95999	
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SP03N500 0 <hex>	SC003500	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SSID : 370	SET_BBID SP01N500 80000000 <hex>	SC001500	
		Verify Telemetry BBFULLTYPE SM2LN500	= Null	AND=ZAZ95999	
	ET=+ UT=+00.00.00	SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SET_OBS_STEP SP03N500 0 <hex>	SC003500	
	ET=+ UT=+00.00.01	SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SSID : 370	SET_BBID SP01N500 8C020001 <hex>	SC001500	
		Verify Telemetry BBFULLTYPE SM2LN500	TBD	AND=ZAZ95999	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SET_OBS_MODE SET_OBS_MODE Command Parameter(s) : OBSERVING_MODE SP02N500 Subsch. ID : 370 Det. descr. : SET OBSERVING MODE	SC002500 ff <hex>	
		Verify Telemetry MODE SM00M500	= DRCU_OFF	AND=ZAZ95999
	ET=+ UT=+00.00.00	SET_OBS_MODE SET_OBS_MODE Command Parameter(s) : OBSERVING_MODE SP02N500 SSID : 370	SC002500 0 <hex>	
		Verify Telemetry MODE SM00M500	= DPU_ON	AND=ZAZ95999
4		Switch OFF DRCU		Next Step: END
4.1		Disable HK reports		<input type="checkbox"/>
		WARNING: The following TCs will stop production of HK packets from SPIRE. It is essential that the FCU LCL is switched OFF and the HK restarted before the spacecraft FDIR time-out is reached (90 seconds) and the RT considered 'invalid', and TM declared 'sick'		
	ET=+ UT=+00.00.00	CLEAR_HK_REPORT CLEAR_HK_REPORT Command Parameter(s) : PKTID_CLEARHK SPR6N500 Subsch. ID : 370 Det. descr. : CLEAR HOUSEKEEPING PARAMETER REPORT DEFINITION	SCR01500 300 <hex>	
		Verify: Packet is not being generated R_Critical_HK_Parameter_Report Packet Details: APID: 1281 Type: 3 Subtype: 25 PI1: 768 PI2:	SCRITHK00559	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	CLEAR_HK_REPORT CLEAR_HK_REPORT Command Parameter(s) : PCKTID_CLEARHK SPR6N500 Subsch. ID : 370 Det. descr. : CLEAR HOUSEKEEPING PARAMETER REPORT DEFINITION	SCR01500 301 <hex>	
		Verify: Packet is not being generated R_Nominal_HK_Parameter_Report Packet Details: APID: 1283 Type: 3 Subtype: 25 PI1: 769 PI2:	SNOMHK000559	
4.2		Set default end conditions		<input type="checkbox"/>
		Note that a TM(5,1) packet [R_New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands		
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80000000 <hex>	
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80030001 <hex>	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 1 <hex>	
	ET=+ UT=+00.00.01	SET_OBSID SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 SSID : 370	SC000500 00000000 <hex>	
	ET=+ UT=+00.00.00	SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP	SC003500 0 <hex>	
	ET=+ UT=+00.00.01	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 SSID : 370	SC001500 80000000 <hex>	
4.3		Power OFF DRCU		<input type="checkbox"/>
		Execute Telecommand SwOff_SpireHSFCU_R_L52 SSID : 10	DC52B170	
		Verify Telemetry SpirHsfR_L52_1S WM72C565	= OFF	AND=ZAZ95999
		Verify Telemetry SpireHsfR_L52_I WM708565	= 0.0 A	AND=ZAZ95999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+ UT=+00.00.01	DEFINE_NEW_HK_REPORT DEFINE_NEW_HK_REPORT Command Parameter(s) : HKPCKTID_DEFINENEWHK SPR0N500 HKSID_DEFINENEWHK SPR1N500 HKINTERVAL_DEFINENEWHK SPR2N500 HKREPEAT_DEFINENEWHK SPR3N500 TABLEID_DEFINENEWHK SPR4N500 Subsch. ID : 370 Det. descr. : DEFINE NEW HOUSEKEEPING PARAMETER REPORT	SCR00500 300 <hex> 300 <hex> 7d0 <hex> 1 <hex> 0 <hex>	
		Verify: Packet is being generated Critical_HK_Parameter_Report Packet Details: APID: 1280 Type: 3 Subtype: 25 PI1: 768 PI2:	SCRITHK00559 1280 3 25 768	
End of Procedure				